

WHAT IS CLAIMED IS:

1. An optical fiber block for aligning an optical waveguide device, comprising:
an optical-fiber-alignment portion having an array of V grooves for accommodating
5 non-coated optical fibers of a ribbon fiber, said array of V grooves including first V grooves
disposed at both ends of said array of V grooves and an array of second V grooves that is
different from said first V grooves disposed between both ends of said first V grooves; and,
a stress-reduction-depth portion extended to a predetermined depth from said
optical-fiber-alignment portion for reducing stress caused by coating materials of said
10 optical fibers,
wherein said array of V grooves is formed by a primary etching and a secondary
etching on said optical fiber block, and wherein the stress-reduction-depth portion is
formed by an etching on said optical fiber block.
- 15 2. The optical fiber block of claim 1, wherein said second V grooves are etched
substantially deeper than said first V grooves so that the second V grooves are lower than
the first V grooves with respect to the upper surface of said optical-fiber-alignment portion.

3. The optical fiber block of claim 1, wherein said array of V grooves includes adequate space to accommodate said non-coated optical fibers of the ribbon fiber.

4. A method for aligning an optical waveguide device, the method comprising
5 the steps of:

providing an output optical fiber block for transmitting light therethrough;

performing a primary etching on one end of said optical fiber block to a first predetermined depth to form an optical-fiber-alignment portion and a secondary etching on the same end to a second predetermined depth to form an array of V grooves;

10 performing a third etching on the other end of said optical fiber block to a third predetermined depth extending from said optical-fiber-alignment portion to form a stress-reduction-depth portion;

aligning each of non-coated optical fibers of a ribbon fiber along said array of V grooves so that said non-coated optical fibers of the ribbon fiber are fully enclosed in said
15 array of V grooves; and,

bonding said non-coated optical fibers of the ribbon fiber to said array of V grooves for transmitting a signal light to one end of said optical waveguide device.